The Income-Wealth Paradox: Connections Between Realized Income and Wealth Among America's Aging Top Wealth-Holders

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Meaningful measures of individual economic well-being are essential for the equitable administration of Government social and economic policies. Realized income, which includes both wage and property income, is a frequently cited measure of both economic well-being and inequality, chiefly because wage income, the largest component for most households, is relatively easy to observe and measure (Steuerle, 1985). Some researchers, however, have argued that the "stock dimension" of asset ownership provides economic advantages, such as economic security, political privilege, and power that should also be considered in any study of well-being (Wolfe and Zacharias, 2006). Policymakers, the media, and the general public often incorrectly conflate income and wealth, using them interchangeably when trying to make inferences about the well-being of various segments of the population. This is particularly problematic because these two are not as closely correlated as is generally assumed, particularly among the very wealthy.

For the very wealthy, the discordant relationship between income and wealth is the result of the dynamic nature of the income reported by this segment of the population. Two studies using panel data from U.S. Federal income tax returns have shown that the composition of the group of individuals whose incomes place them near the top of the income distribution changes dramatically over time (Frenze, 1992; U.S. Treasury, 2007). The U.S. Treasury Department study found, for example, that fewer than half of those in the top 1 percent of the income distribution in 1996 were still in the top 1 percent in 2005. This volatility increased at the very top of the distribution, so that only about 25 percent of the individuals in the top 1/100th percent in 1996 remained in the top 1/100th percent in 2005. The Treasury report concluded that the income of many of the highest-income taxpayers is transitory and generally declines over time (U.S. Treasury, 2007).

The transitory composition of income quintiles over time can be partially attributed to decreases in wage income for individuals above retirement age. Also, for wealthier individuals, return on capital becomes an increasingly important source of income. For the very wealthy, however, income from capital can be particularly susceptible to manipulation to minimize tax liability. For example, it has been shown that rates of return on investments decline as wealth increases among the very wealthy (Steuerle, 1985; Wahl and Johnson, 2004). If this is the case, then, for these very wealthy individuals, measures of well-being that focus solely on realized income will understate their true economic status.

This paper is intended to add to the understanding of the ways in which income from various sources changes with age for the very wealthy. It makes use of a special longitudinal panel of U.S. income tax data linked to wealth data reported on U.S. estate tax returns filed for wealthy decedents. The relatively high estate tax filing threshold places these individuals at the top of the U.S. wealth distribution. Combined income and wealth data in the Statistics of Income Family Panel Decedent Dataset (FPDD) allow investigation of changes in the composition of realized income over time and also provide insights into asset management strategies employed by this elite group. In addition, this paper investigates the relationship between income and end-of-life wealth through the use of the portfolio data reported on the estate tax returns. Due to the limitations of the tax data, it incorporates data from the U.S. Survey of Consumer Finances to estimate these panel members' place in the overall U.S. distributions of income and wealth.

Tax Return Data

The Statistics of Income Division (SOI) of the United States Internal Revenue Service collects statistical data from most major Federal tax and information returns. These data are used by both the U.S. Congress and the Executive Branch of the Government to evaluate and develop tax and economic policy. Among these are annual studies of the *United States Estate (and Generation–Skipping Transfer) Tax Return* (Form 706) and the *U.S. Individual Income Tax Return* (Form 1040).

A Federal Estate Tax Return, Form 706, must be filed for every U.S. decedent whose gross estate, valued on the date of death, combined with certain lifetime gifts made by the decedent, equals or exceeds the filing threshold applicable for the decedent's year of death.[1] The return must be filed within

[1] The estate tax filing thresholds for 1994–2003 are listed in Table 1.

9 months of a decedent's death, although a 6-month extension is frequently granted. All of a decedent's assets, as well as the decedent's share of jointly owned and community property assets, are reported on Form 706. Also reported are most life insurance proceeds, property over which the decedent possessed a general power of appointment, and certain transfers made during life.

Form 1040 is filed by individuals or jointly by couples to report annual income, including wages, interest, dividends, capital gains, and some types of business income. The Statistics of Income Division of the Internal Revenue Service conducts annual studies of these filings, extracting detailed information from a statistical sample of returns as they are filed and producing microdata sets and tabulations that are widely used to evaluate and manage the U.S. tax system and the economy. The SOI stratified sample design oversamples high-income taxpayers to ensure accurate estimates of the often unique financial characteristics of this elite group. In 1987, SOI incorporated a panel component, the Family Panel, into its annual cross-sectional samples in order to include all members of a tax family (primary and secondary filers and their dependents) in a panel that represented the cohort of tax families filing returns in 1988 for Tax Year 1987 (Schirm and Czajka, 1991). For the initial year, the Family Panel included 89,755 returns, not counting returns filed by dependents.

The Tax Family Concept

The unit of observation for the SOI 1987 Family Panel was defined as a tax family, which included an income taxpayer, spouse, and all dependents (not limited to children) claimed by either. Thus, a tax family could represent single income tax filers, as well as joint filers and their dependents.[2] An interesting complication of the tax family concept is the treatment of married couples who, for various reasons, elected to file income taxes separately. For the purposes of the followup in the later years of the panel, only a partner whose separately filed return was selected into the 1987 panel sample was permanently included in the panel; the only way for both spouses of a married couple filing separately in 1988 to have been permanently included in the Family Panel was for returns filed by each spouse to have been

[2] Dependents did not need to live in the same household as the parent to be included in the tax family. However, information on dependents whose incomes fell below the filing threshold was generally not available unless reported on the parent's return. Coresident family members who were not claimed as dependents were not included in the tax family. No dependents are included in the analysis presented in this paper.

independently selected. Thus, the tax family differs significantly from the more common "household" measure used by many national surveys (Czajka and Schirm, 1993).

Assets are valued on the day of the decedent's death, although an estate is also allowed to value assets on a date up to 6 months after a decedent's death if market values decline. Special valuation rules and a tax deferral plan are available to an estate that is primarily composed of a family-owned small business or farm. Expenses and losses incurred in the administration of the estate, funeral costs, the decedent's debts, bequests to a surviving spouse, and bequests to qualified charities are all allowed as deductions against the estate for the purpose of calculating the tax liability.

Survey of Consumer Finances

The Survey of Consumer Finances (SCF) is a survey of household balance sheets conducted by the Board of Governors of the Federal Reserve System in cooperation with the SOI division of the IRS. Besides collecting information on assets and liabilities, the SCF collects information on household demographics, income, relationships with financial institutions, attitudes toward risk and credit, current and past employment, and pensions (Bucks; Kennickell; Mach; and Moore, 2009).

The SCF uses a dual frame sample design to provide adequate representation of the financial behavior of all households in the United States. One part of the sample is a standard multistage national area probability sample (Tourangeau et al., 1993), while the list sample uses the SOI individual income tax data file to oversample wealthy households (Kennickell, 2001). Wealth data from the SCF are widely regarded as the most comprehensive household-level data available for the United States. Sample weights constructed for the SCF allow aggregation of estimates to the U.S. household population level in a given survey year (Kennickell and Woodburn, 1999; Kennickell, 1999).

The Data

Starting in 1994, the sample for SOI's annual estate tax studies included any Form 706 filed for a deceased 1987 Family Panel member. The Family Panel Decedent Dataset (FPDD) was begun in 1994 as a combination of these estate tax returns and their corresponding individual income tax return

data. Between 1994 and 2003, there were 5,557 estate tax returns identified as having been filed for 1987 Family Panel members who died.[3]

The FPDD includes income data spanning 1987 to 2003 and estate tax data ranging from 1994 to 2003.[4] A total of 72,373 income tax returns were available for the members of FPDD. Table 1 presents the distribution of decedents by year of death, along with the applicable estate tax filing threshold. The rightmost column shows only those 5,162 decedents whose gross estates at the time of death were at least $1 million in constant 2003 dollars and for whom a Form 1040 was filed in the last year prior to death.

For 98.2 percent of decedents captured in the FPDD, income tax data were available for each tax year between 1987 and the last full year prior

Table 1. Filing Threshold and Number of Decedents, by Year of Death

Year of Death	Number of decedents	Filing threshold in nominal dollars	Number of decedents with assets of $1M or more in constant 2003 dollars
1994	417	600,000	385
1995	480	600,000	440
1996	521	600,000	478
1997	574	600,000	520
1998	538	625,000	487
1999	635	650,000	586
2000	609	675,000	559
2001	667	675,000	605
2002	636	1,000,000	630
2003	480	1,000,000	472
Total	**5,557**	**N/A**	**5,162**

[3] An additional 755 Estate tax returns were filed for decedents who died prior to 1994, the date that SOI began collecting these data for panel members, so that these decedents are excluded from this analysis. Estate returns of visitors to the panel (individuals who were married to existing panel members for periods after 1987) were not included in the final dataset since income data were only available for those years that they were associated with an original panel member. Estate returns of dependents were also excluded.

[4] Up until 1996, individual income tax data were collected and edited by SOI. Starting in 1996, a reduced set of data collected by IRS for administrative purposes was available. These data were not subject to the edit review that is routinely part of SOI data collection and may be subject to additional nonsampling error and subtle differences in data definitions (see Johnson and Schreiber, 2006).

to death. For an additional 1.3 percent of all decedents, only one return was missing from this time series, leaving only a handful of decedents for whom more than one return was missing from the panel.[5]

The design of the FPDD poses several analytical challenges. Longitudinality introduces problems with the tax family concept because, over time, a filing unit may change composition, and this change is usually accompanied by changes in filing status (Czajka and Schirm, 1993). In addition, the selection criteria for inclusion in the FPDD changed during the sample period due to changes in the estate tax filing threshold. Another important consideration is that an estate tax return includes only a decedent's share of a married couple's assets, while income tax returns for married couples who file jointly report income attributable to both partners. Finally, with a few exceptions, such as tax-exempt interest income, only income subject to taxation is reported on a tax return, and that reported income may be subject to both accidental and intentional misreporting by the taxpayer.

Although the income tax filing status reported for members of the FPDD was much more stable over time than that of the general population, changes are inevitable. In particular, married persons may divorce, single persons may marry, couples who customarily file jointly may elect to file separately or vice versa, or one or both spouses of a married couple may die. The longer the time series, the greater the possibility for one of these events to occur. Table 2 shows panel members for whom a tax return was filed in the last year prior to death and compares each panel member's filing status in the year prior to death with that reported for earlier

Table 2. Filing Status Stability of Panel Members for Whom a Form 1040 was Filed 1 Year Prior to Death

Includes only those panel members who died between 1994 and 2003 with gross assets valued at $1 million or more in constant 2003 dollars

Filing Status	Number	Number of years prior to death filing status unchanged			
		3	5	7	9
Single	1,688	1,421	1,230	1,062	766
Joint	3,474	3,399	3,343	3,305	2,693
Total	**5,162**	**4,820**	**4,573**	**4,367**	**3,459**

[5] Missing returns can occur either because a taxpayer was not required to file in a given year, or because of an error in reporting a taxpayer's Social Security number (SSN)—a unique personal identifier used for tax administration. The latter occurred mainly in the case of secondary SSNs in the 1987 panel. After the period covered by this study, the IRS implemented processing improvements that greatly reduced the chances of SSN errors in the data.

tax periods. Filers are grouped into two broad categories, single filers and joint filers.[6] Using this classification, filing status was constant for 67 percent of all panel members over the 9 years preceding death. Individuals who were single filers at death were much more likely to have changed filing status in the years preceding death than those who were joint filers. Only 45 percent of all individuals who were single filers in the year prior to death had been single over at least the 9 years examined. This result is influenced by couples for whom one spouse died and those who divorced or separated during the period. Of individuals who were joint filers at death, 78 percent had been married for at least the previous 9 years. Filing status was significantly more static over the 7 years preceding death for both groups, with no change for 85 percent of all filers, 63 percent of single filers, and 95 percent of joint filers. This paper focuses on filers with constant filing status for the 7 years prior to death and at least $1 million (in constant 2003 dollars) in gross wealth as reported in estate tax filings.

Income Components

The filers in the sample used in this analysis are a very selective slice of all taxpayers in any given year. Many members of the sample have a high level of total income, but, owing to the nature of the sample selection, it is difficult to gauge where these filers fall in the overall distribution of income. One possibility is to compare weighted mean total income by year in the FPDD to the distribution of a comparable total income measure constructed from SCF data.[7] The comparison reveals that weighted mean total income by year from the FPDD is above the 95th percentile of the SCF income distribution in each year in which the two data sources overlap (Tax Years 1988, 1991, 1994, 1997, 2000, and 2003).[8]

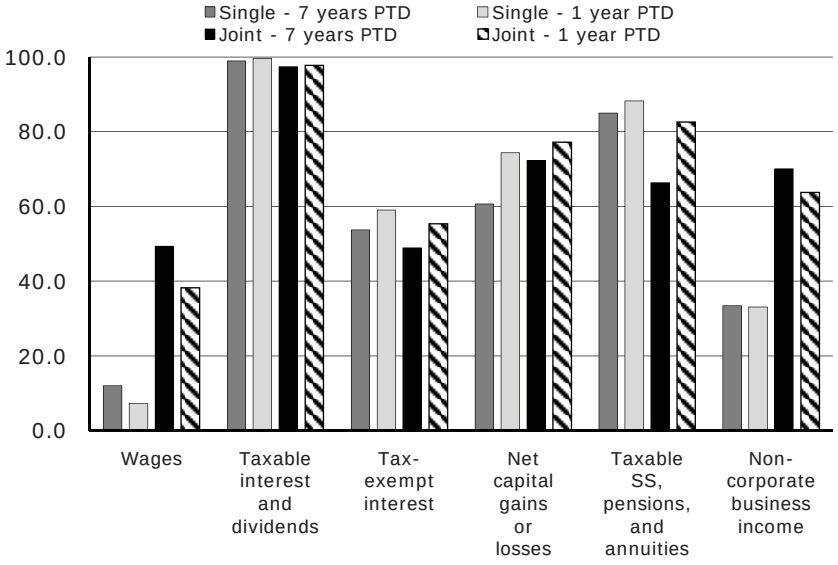
Figure 1 provides some basic information on the fraction of filers with different types of income, by the number years prior to death. The most striking point to note from this Figure, but hardly surprising, is the extremely high incidence of income derived from various assets, regardless of filing status or the number of years prior to death. Over 96 percent of both types of filers have taxable interest and dividend income, and about one-half have

[6] The category "single" includes individual income tax return filers who were unmarried, widowed, or married but filing separately.

[7] All estimates are weighted using weights that reflect the original family panel selection probabilities of the primary and, if present, secondary filer. All dollar values are reported in constant 2003 dollars.

[8] In comparable years, weighted median total income in the FPDD falls between the 70th and 90th percentiles of the SCF income distribution.

Figure 1. Percentage of Filers with Various Types of Income



tax-exempt interest income. For single filers, about 65 percent have net capital gains or losses. Over 70 percent of joint filers report this type of income. About 35 percent of single filers and 65 percent of joint filers also receive income from noncorporate businesses. Given that the average age at death in the sample is 77, it is not surprising that taxable Social Security, pension, and annuity income is common among both groups of filers, while wage income is the least common type of income received.

Figures 2a–c present the (unconditional) mean values of various types of income by filing status, years prior to death, and end of life wealth category.[9] The most striking feature of the Figures is the difference in mean total income across wealth groups. Depending on filing status and number of years prior to death, mean total income is 5 to 10 times larger for the $10 and $20 million wealth group (Figure 2b) than for the less than $10 million wealth group (Figure 2a). Somewhat smaller differences exist between the middle and the top wealth groups. Mean total income for the $20 million or more wealth group (Figure 2c) is only 2 to 6 times larger.[10]

The Figures also reveal that income derived from taxable interest and dividends, tax-exempt interest, and capital gains is an important source

[9] Gross estate valued on the date of a decedent's death is used as the measure of wealth throughout this analysis.

[10] Similar results are found when comparing the median and the 75th and 95th percentile values of total income across wealth groups.

Figure 2a. Mean Value of Various Types of Income, Wealth Less than $10 Million

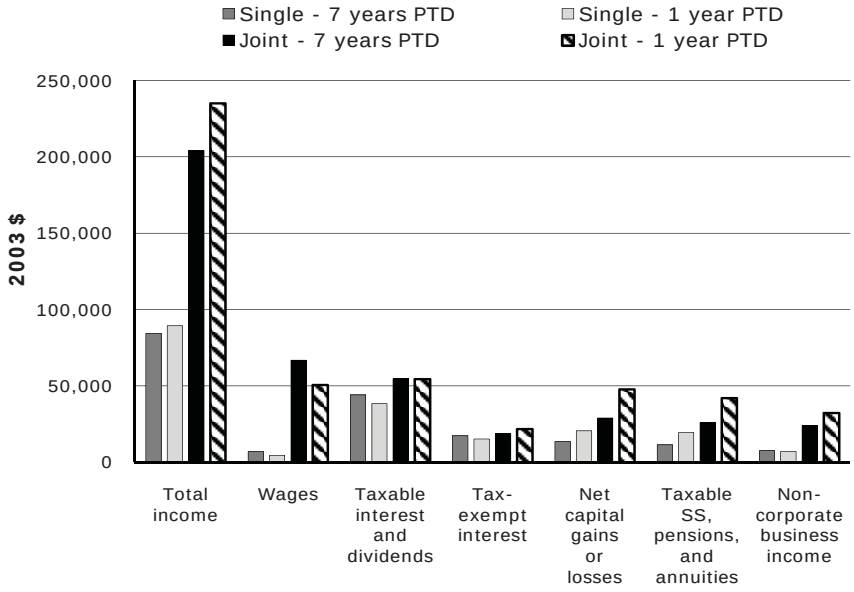


Figure 2b. Mean Value of Various Types of Income, Wealth $10 to $20 Million

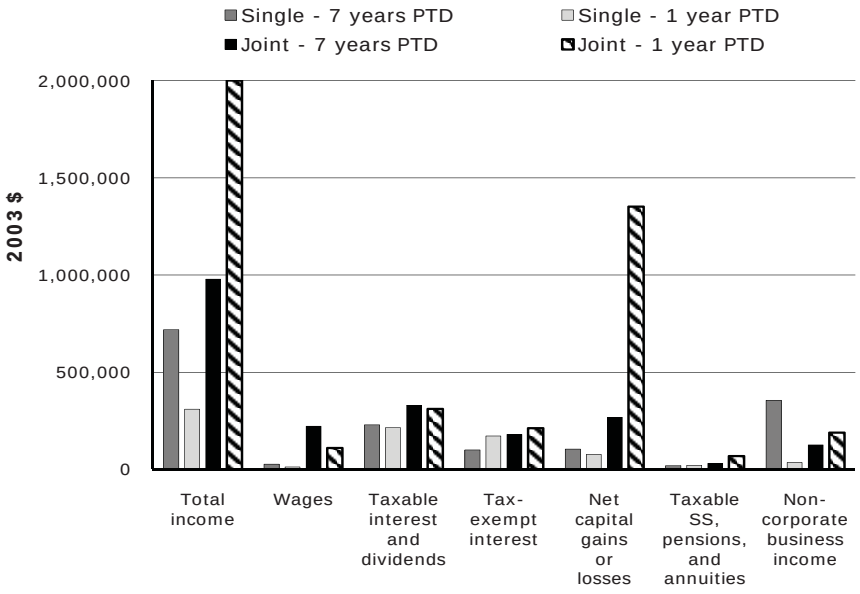
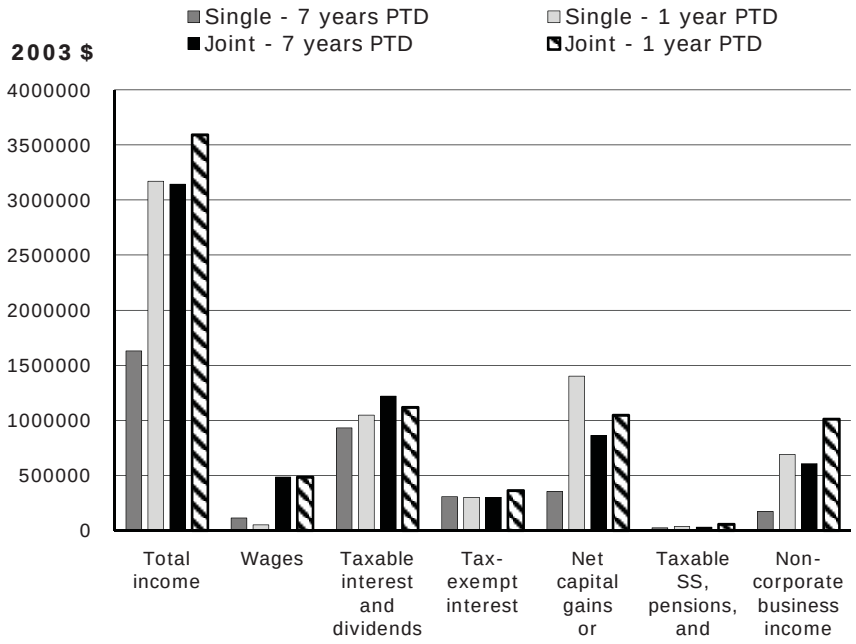


Figure 2c. Mean Value of Various Types of Income, Wealth $20 Million or More



of income for all wealth groups. For the middle and top wealth groups, income from these sources accounts for at least two-thirds of mean total income, regardless of filing status or years prior to death. Business income is also a more important source of income for the top two wealth groups than for the lowest wealth group. Mean wage income and mean taxable Social Security, pension, and annuity income account for a relatively small fraction of total mean income. The share is largest for single and joint filers in the lowest wealth group.

Changes in Income and Wealth at the End of Life

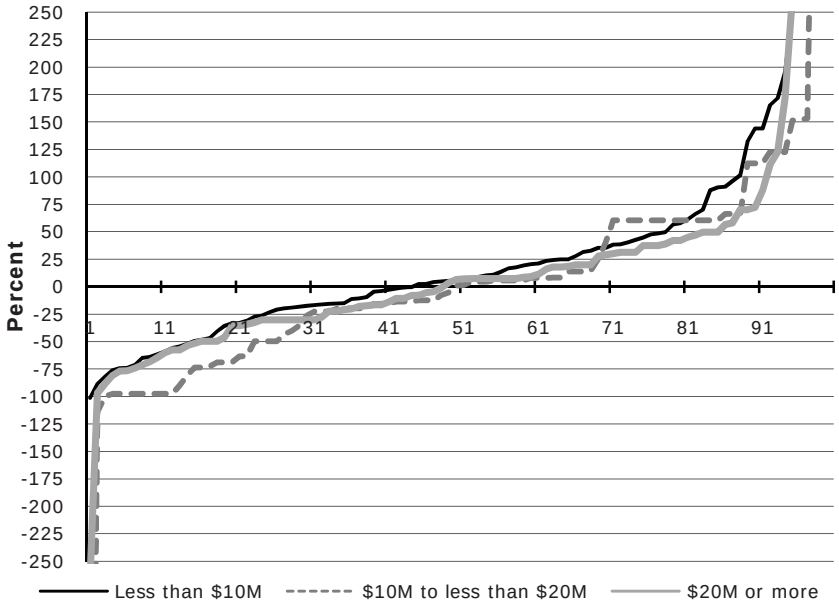
The panel aspect of the FPDD provides an opportunity to examine how total income and its various components change as filers age and approach death. Overall, a decline in income from wages and active involvement with businesses as individuals age, accompanied by a shift from risky investment income sources to more stable, tax-preferred sources, can be expected. In addition, life-cycle theories of savings suggest an increase in income from

capital gains as individuals consume out of savings. Since the data contain information on estate tax filings, how changes in income prior to death are related to wealth at the end of life can also be examined.

Figures 3a–d present the percentage change in total income by filing status and wealth group. The graphs show the distribution of percentage changes in income over two time periods: between 7 years prior to death and 1 year prior to death, and between 4 years prior to death and 1 year prior to death.[11]

For single filers, Figures 3a and 3b reveal that about half of filers experienced a positive change in income over either time period.[12] The distribution of changes is fairly similar for the bottom and top wealth groups over the 7-year period. However, over the 4-year period, the top two wealth groups were much more likely to experience an increase in total income of

Figure 3a. Percentage Change in Income Between 7 Years to 1 Year Prior to Death, by Wealth, Single Filers



[11] 1 year prior to death is used because income data for a decedent's year of death would represent income earned during less than a full 12-month period in almost all cases.

[12] The graphs are truncated at ±250 percent to better show patterns in the data. The truncation removes the top 5 percent and bottom 5 percent of the changes.

Figure 3b. Percentage Change in Income Between 4 Years to 1 Year Prior to Death, by Wealth, Single Filers

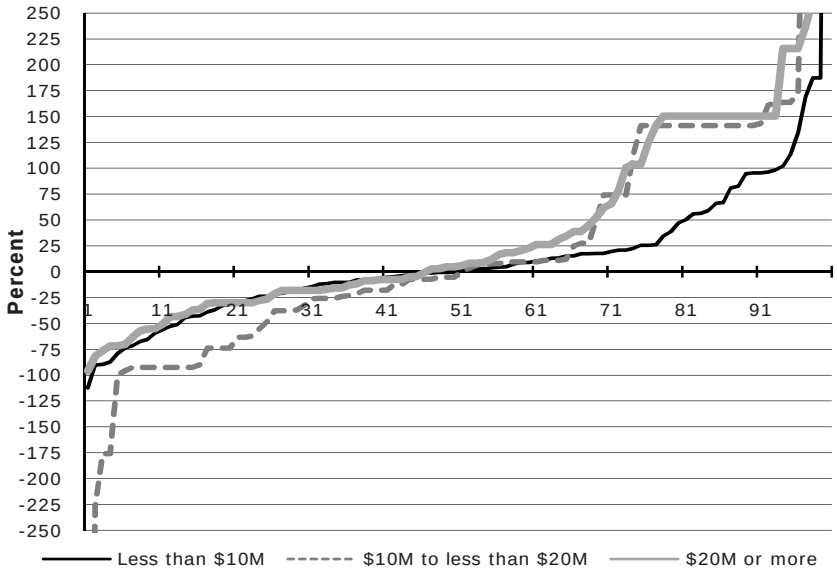


Figure 3c. Percentage Change in Income Between 7 Years to 1 Year Prior to Death, by Wealth, Joint Filers

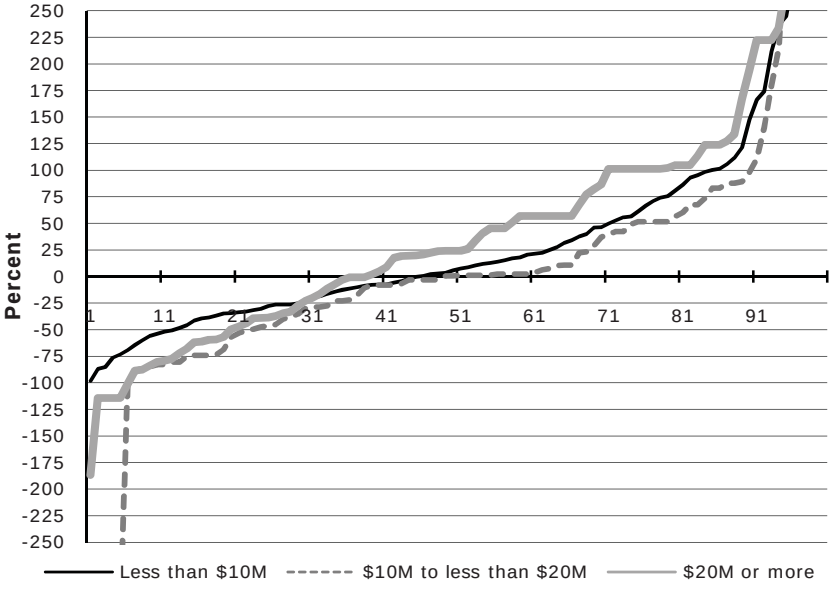
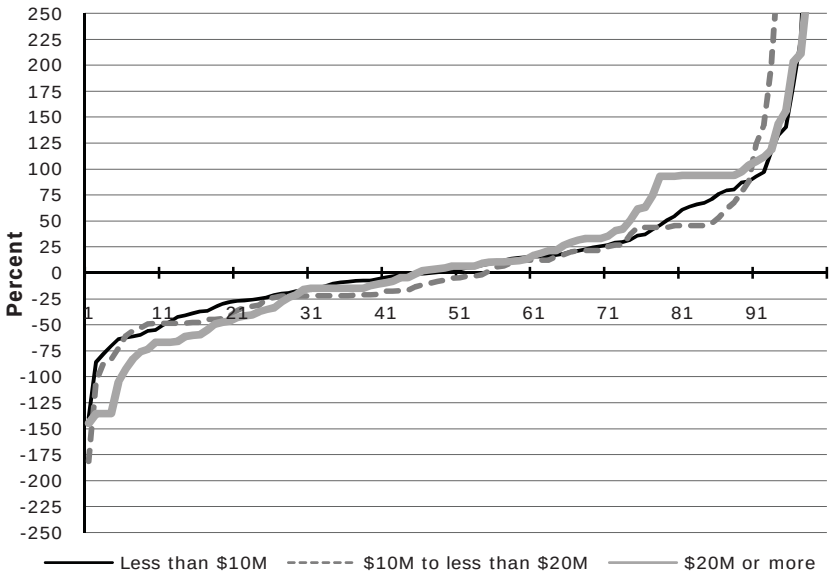


Figure 3d. Percentage Change in Income Between 4 Years to 1 Year Prior to Death, by Wealth, Joint Filers



more than 100 percent. Over both time periods, the distribution of changes for the middle wealth group exhibits the most variability. This group is the most likely to have experienced a large negative percentage change.

For joint filers, Figures 3c and 3d show a somewhat different pattern, as the changes in income over the 7-year period are more variable than over the shorter period. For the top wealth group over the longer period, about two-thirds of filers experienced a positive percentage change in total income, compared to about half of filers in the other two wealth groups. Similar to single filers, the middle wealth group was the most likely to have experienced a large negative percentage change in total income.

Overall, Figures 3a–d show that, for both single and joint filers, there was a great deal of variability in total income over both periods examined, and that the majority of the percentage changes ranged between plus and minus 50 percent, regardless of wealth group. In addition, the distribution of the percentage changes in total income is not very different in either time period.[13] Together, the data suggest that, for this population, aging or proximity to death do not have a consistent effect on income variability.

[13] Similar results are found if Figure 3 is constructed using the difference between the average of total income calculated over 7 years to 4 years prior to death and the average over 3 years to 1 year prior to death.

The lack of major differences in the distributions of the percentage change in total income over both periods does not necessarily imply that individual filers each experienced a sizable change in income over both periods. However, as shown in Table 3, 58 percent of single filers and 66 percent of joint filers had a change in total income in both periods of greater than 25 percent in absolute value. This fraction increases with wealth. Table 3 also shows that over a one-third of both types of filers had a change in total income in both periods of greater than 50 percent in absolute value. For joint filers in the top wealth group, the fraction was almost two-thirds.

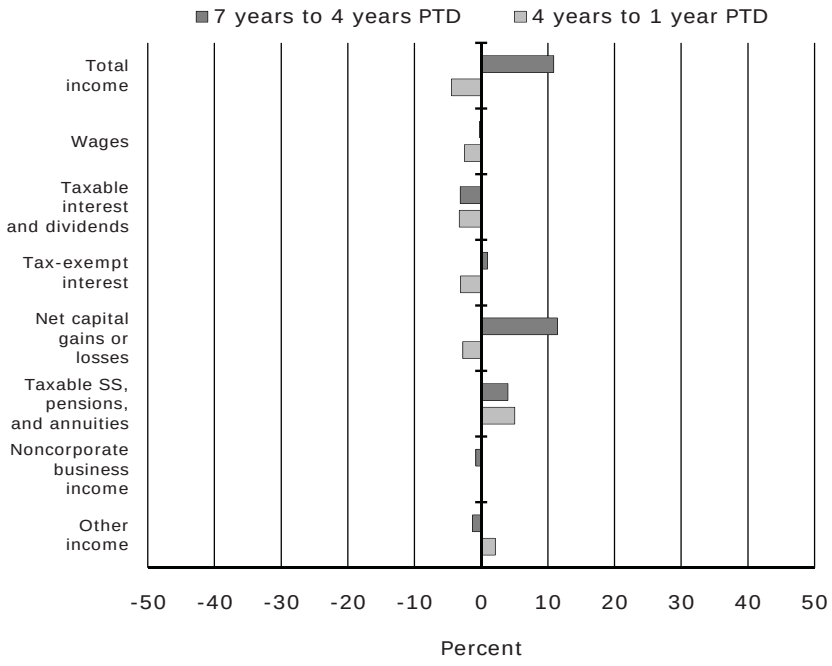
Overall, Figures 3a–d and Table 3 show there is substantial variability in total income for filers regardless of filing status, wealth group, or time period. This variability is due to a combination of variability in rates of return on assets, strategic portfolio decisions, consumption needs, and general economic conditions. Unfortunately, the data in the FPDD do not provide an easy method for sorting out which of these factors is driving the variability, but a closer examination of the changes in the components of income is possible.

Figures 4a–f present a decomposition of the change in mean total income into the share attributable to selected income components, for

Table 3. Percentage of Filers with Selected Percentage Changes in Total Income Over 7 Years to 1 Year Prior to Death and 4 Years to 1 Year Prior to Death, By Filing Status and Wealth Class

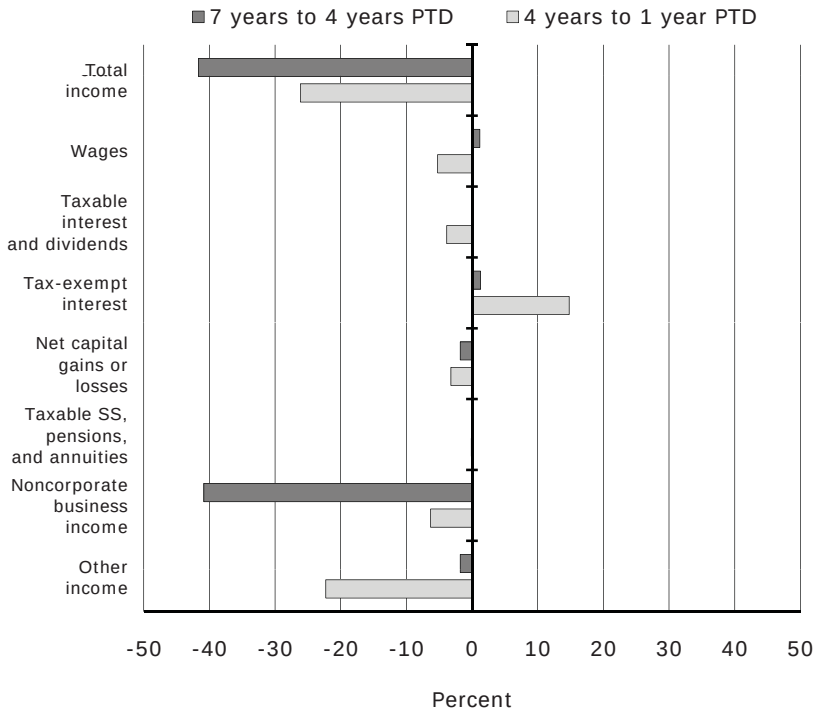
Marital Status/ Wealth Category		Percentage change in total income	
		Absolute value >=25%	Absolute value >=50%
Single	All Wealth Categories	58	36
	Less than $10M	58	36
	$10M to less than $20M	61	56
	$20M or more	69	44
Joint	All Wealth Categories	66	42
	Less than $10M	66	42
	$10M to less than $20M	66	50
	$20M or more	78	63

Figure 4a. Decomposition of Percentage Change in Total Income and Components for Selected Years Prior to Death (PTD): Single Filers with Less than $10M in Total Assets at Death



each wealth group, focusing on two time periods, 7 years to 4 years prior to death and 4 years to 1 year prior to death. Starting with single filers in the less than $10 million wealth group, Figure 4a shows that mean total income is relatively stable for single filers in this lowest wealth group which, after rising in the first period, falls as filers near death. The primary drivers of the small increase in mean total income over the first period are capital gains income and taxable Social Security, pension, and annuity income. The increase in the latter is due to the aging of the filers over the sample period. Over the second period, the decline in mean total income is due to a fall in wages, income derived from financial assets, and capital losses. In contrast, mean total income for single filers in the $10 to $20 million wealth group (Figure 4b) is more variable, with declines in both periods. A sharp decline in noncorporate business income accounts for almost all the decline over the 7-year to 4-year period.

Figure 4b. Decomposition of Percentage Change in Total Income and Components for Selected Years Prior to Death (PTD): Single Filers with $10M to Less than $20M in Total Assets at Death



In the period closer to death, a modest increase in tax-exempt interest income is more than offset by a decline in other income.

Figure 4c reveals that, unlike the lowest and middle wealth groups, single filers in the $20 million or more group experienced a substantial increase in mean total income over both periods. Over the 7 years to 4 years prior to death period, the increase was driven by taxable interest and dividends, capital gains income, noncorporate business income, and other income. In the period closer to death, the increase in mean total income is primarily due to a large increase in capital gains income.

Turning to joint filers in the less than $10 million wealth group, Figure 4d presents a pattern similar to the one found for single filers in this wealth

Figure 4c. Decomposition of Percentage Change in Total Income and Components for Selected Years Prior to Death (PTD): Single Filers with $20M or More in Total Assets at Death

group. The change in mean total income is relatively small in both periods, but, for joint filers, there is an increase in mean total income in the period closer to death. Income from capital gains, taxable Social Security, pensions, and annuities, and noncorporate business account for the majority of this increase.

Joint filers in the $10 to $20 million wealth group (Figure 4e) have the largest percentage changes of any of the filing status/wealth groups examined. Although the changes in mean total income over the 7 years to 4 years prior to death period are modest, mean total income more than doubled over the period closer to death. As is obvious from Figure 4e, the catalyst for this change is driven by the more than doubling of capital gains income.

Figure 4d. Decomposition of Percentage Change in Total Income and Components for Selected Years Prior to Death (PTD): Joint Filers with Less than $10M in Total Assets at Death

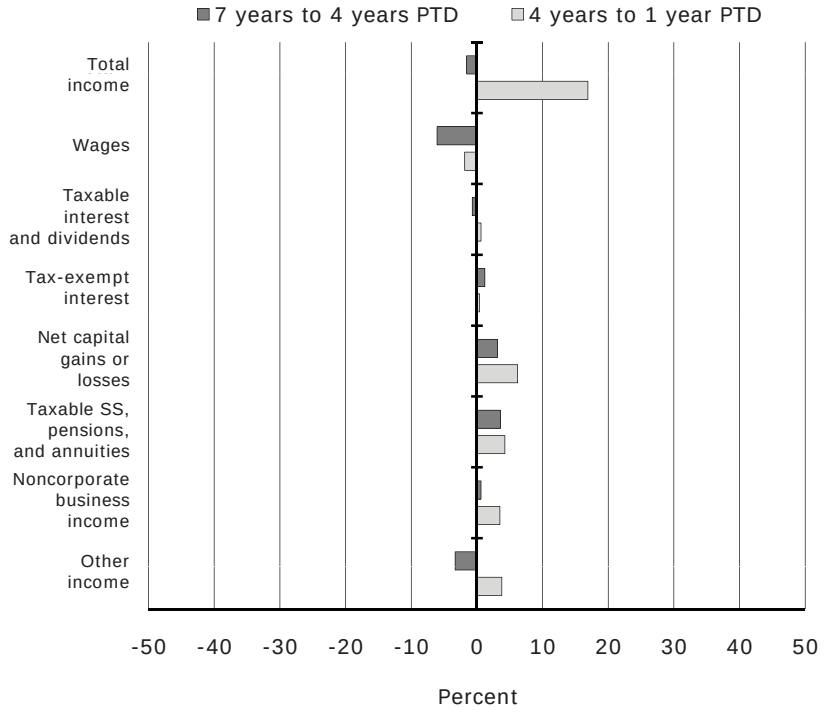
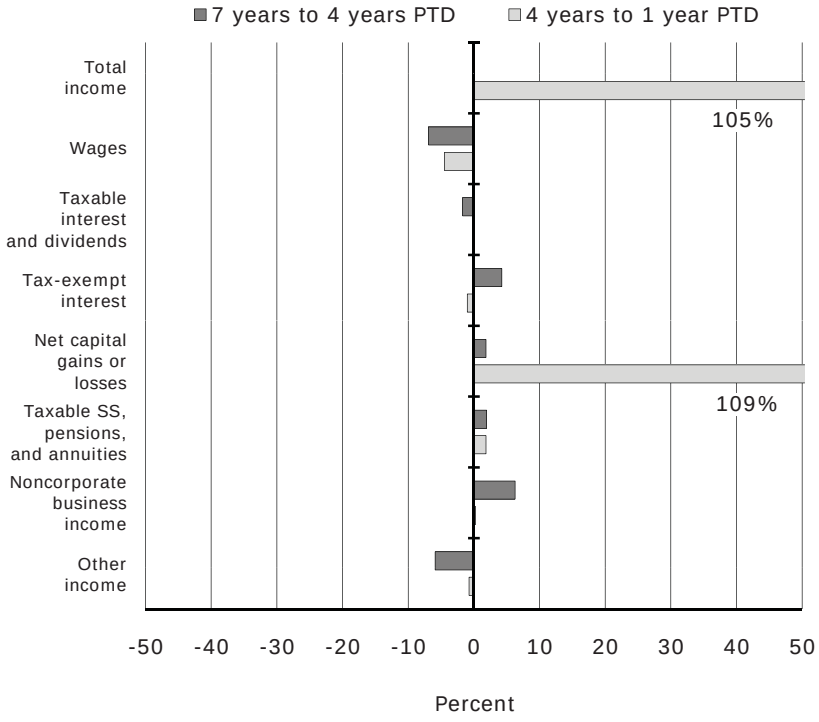


Figure 4f reveals that joint filers in the top wealth group experienced small increases in mean total income in both periods. Noncorporate business and capital gain income accounted for a substantial share of the increases in mean total income. The size of these percentage changes is quite similar to those observed for single and joint filers in the lowest wealth group.

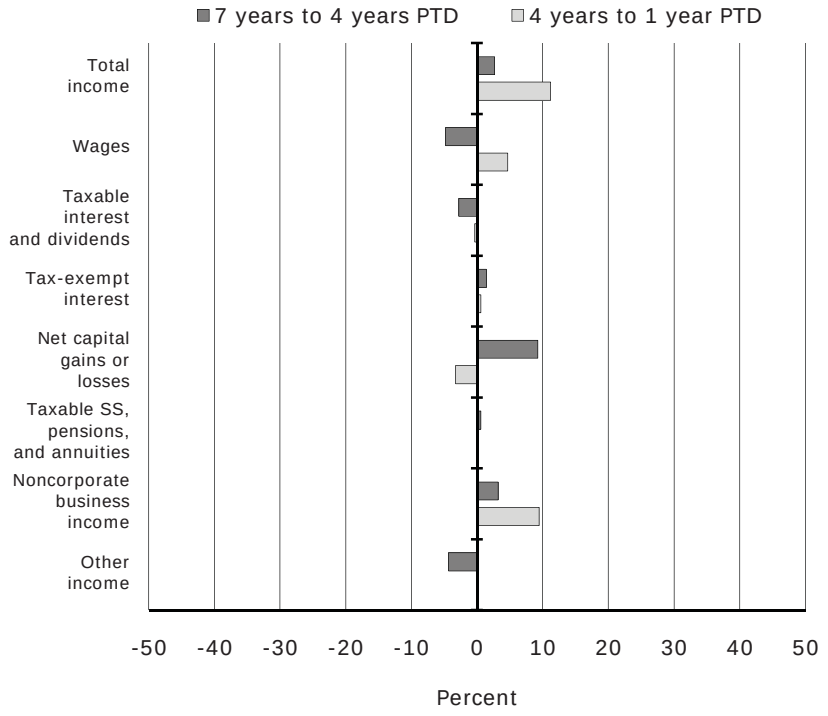
The decline in mean total income and particularly the decline in income from assets for single filers in the two lower wealth groups could be interpreted as evidence that wealth is also declining as these filers near death. Alternatively, older respondents may more closely align income realizations with their consumption needs in order to conserve resources for future health care costs. They may also actively conserve wealth in order to provide significant

Figure 4e. Decomposition of Percentage Change in Total Income and Components for Selected Years Prior to Death (PTD): Joint Filers with $10M to Less than $20M in Total Assets at Death



bequests to their heirs. In contrast, mean total income increased for high wealth single filers and all joint filers, especially in the period closer to death. Most of the increases in mean total income are due to capital gains realizations and noncorporate business income. The increase in capital gains income could be evidence that some decedents spend out of wealth to cover expenses related to a final illness, or that they are simplifying their portfolios to reduce the burden of administering their estates. The albeit small increase in tax-exempt interest, along with the decrease in income from dividends and taxable interest for this group, suggests a general restructuring of the portfolio to favor tax-preferred investments. As this study only observes end of life wealth, it is difficult to know which behavior is dominant.

Figure 4f. Decomposition of Percentage Change in Total Income and Components for Selected Years Prior to Death(PTD): Single Filers with $20M or More in Total Assets at Death

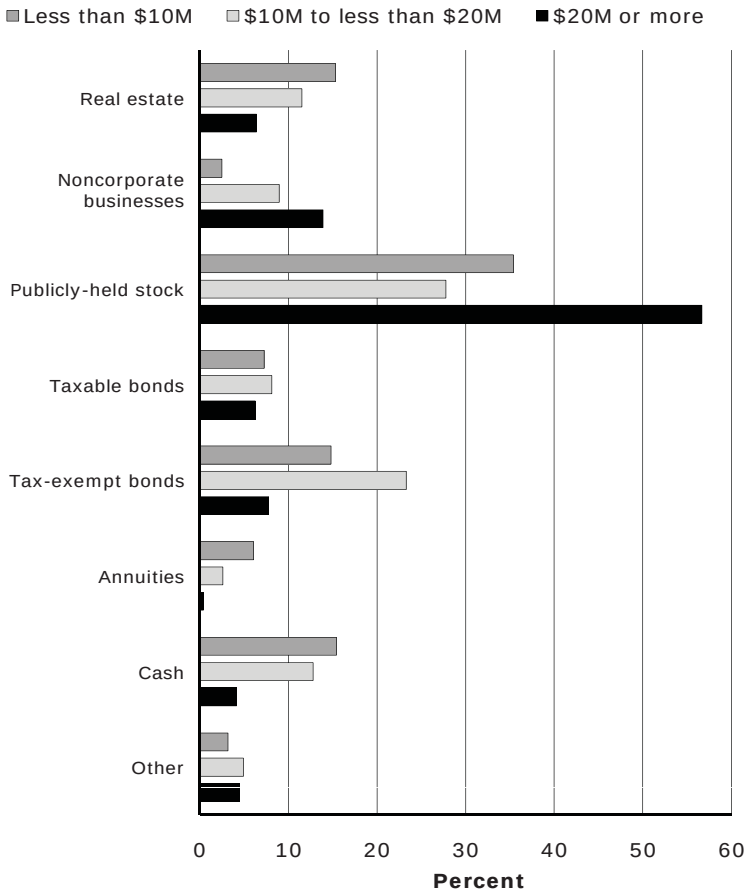


Wealth Allocation at the End of Life

Income derived from assets was extremely important for the filers in this sample, and income varied quite substantially across different periods leading up to death. Figures 5a and 5b provide some information on the allocation of end-of-life wealth, as reported in estate tax filings. Note that filers in the sample from the FPDD have a minimum of $1 million in gross assets (in constant 2003 dollars). This level of wealth places them above the 90th percentile of the distribution of wealth derived from the SCF data.

Figure 5a shows the share of wealth in real estate, noncorporate businesses, stock, taxable bonds, tax-exempt bonds, annuities, cash, and other

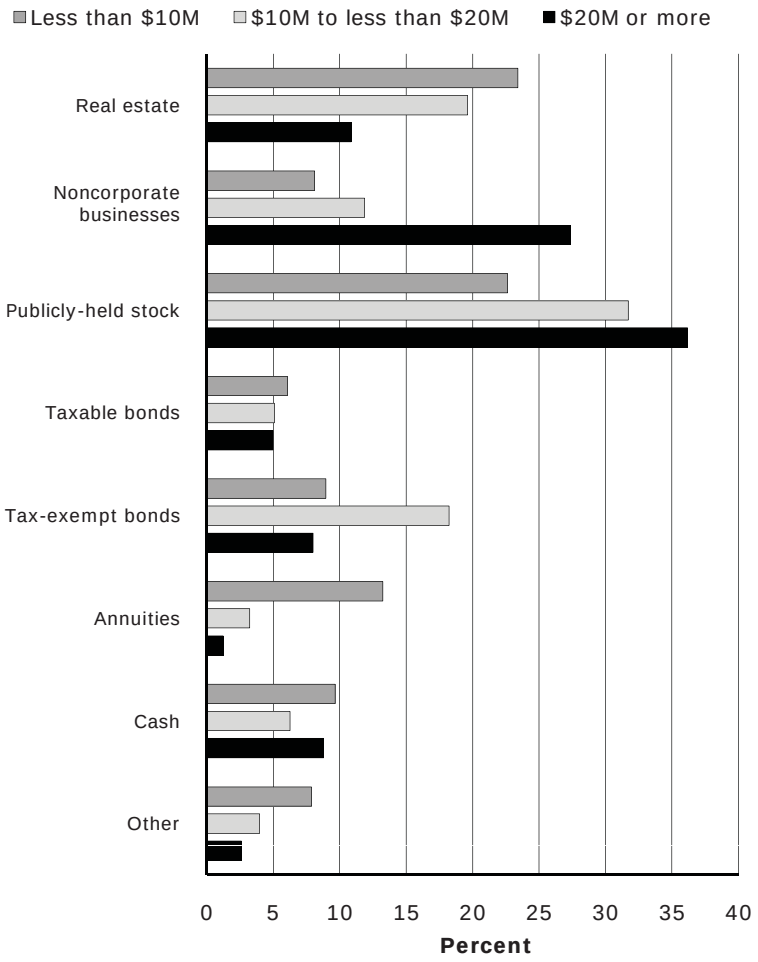
Figure 5a. Wealth Allocation at End of Life, Single Filers, by Size of Gross Assets at Death



assets across the three wealth groups for single filers.[14] The most striking result from Figure 5a is that about 75 percent of wealth is accounted for by financial assets, regardless of wealth group. Publicly traded stocks play a particularly important role in the portfolio for all wealth groups. The share of wealth held in stock is larger than the share for any other financial asset. For single filers with $20 million or more in wealth, over 57 percent of their wealth is in stock. A somewhat different pattern of wealth allocation is

[14] Other assets include the value of art work and collectibles, the face value of life insurance, depletable or intangible assets, and tangible personal items.

Figure 5b. Wealth Allocation at End of Life, Joint Filers, by Size of Gross Assets at Death



evident for joint filers in Figure 5b. Financial assets account for at least 60 percent of wealth for joint filers, regardless of wealth group. Although stock accounts for the largest share of wealth among financial assets for this group, the share held in stock is somewhat balanced by the combined share held in noncorporate businesses and real estate. In general, joint filers exhibit a more diversified portfolio than single filers.

The diminished role of nonfinancial assets in the FPDD portfolio may be partly due to two factors. First, older filers may have divested their

portfolios of active business interests in order to simplify their estates and to ensure a smooth transition of closely held businesses. This may be especially true of the single filers in this panel since this group would include a significant number of widowed filers. Second, estate tax rules on valuing nonfinancial assets may have an effect. Assets such as noncorporate businesses and real estate can be subject to steep valuation discounts if there is no readily available market for them (Raub, 2008). Such discount rates typically range from 35 percent to 50 percent and are frequently used for noncorporate businesses, which can be very difficult to value, especially in cases where a decedent's expertise or reputation is considered a key business asset. Likewise, in some cases, business ownership interests are sufficiently divided among survivors so as to diminish the market for the decedent's share, especially if the decedent controlled less than 50 percent. Thus, there is likely a downward bias in the importance of nonfinancial assets in the wealth of filers in this sample.

The allocation of household portfolio instruments in the 1989 to 2004 SCF data, limited to those with $1 million in wealth (in 2003 dollars) and with a household head age of 70 or older, provide a useful benchmark for evaluating trends observed in the FPDD. Regardless of these older, wealthier households in the SCF, on average, split their wealth roughly evenly between financial and nonfinancial assets. Publicly traded stock accounts for an average of about 25 percent of the wealth of these households across the survey years and almost 50 percent of financial assets. Real estate and businesses account for about 50 percent of wealth and about 90 percent of nonfinancial assets. Discounts on values reported in the FPDD for real estate and businesses may partially explain why financial assets account for a somewhat larger share of wealth in these data when compared to the SCF. Of course, definitional and methodological differences, as well as differences in population coverage between the SCF and FPDD, make the comparison less than straightforward.[15]

The findings that end-of-life wealth is heavily concentrated in financial assets and that income derived from those assets is an important part of total income in the years prior to death for the relatively wealthy filers in the FPDD highlight the interdependent link between income and wealth. These financial assets generate income flows that may be used for consumption or saved. Income that is saved, in turn, increases both wealth and potential future income. Of course, the link between income and wealth is blurred by assets that do not generate regular income flows, but instead accumulate value that is observed

[15] See Johnson and Moore (2005) for more details.

only when the capital gains are realized through the sale of the asset. The realization of capital gains is often a key factor in explaining the variability of income for filers with high levels of wealth, especially as they near death. The tax treatment of these gains may explain a portion of this variability. In particular, while relatively low income tax rates on income derived from capital gains may encourage some to favor gain income over other types of taxable investment income, for others, U.S. estate tax law provisions may actually discourage the realization of capital gains.[16]

Using Income To Predict Wealth

In an attempt to further understand the linkages between income as filers near death and end-of-life wealth, wealth as a function of income and other demographics can be modeled. The equation estimated by ordinary least squares (OLS) is:

$$(1)\ W_{iT} = \alpha + \sum_{j=1}^{7}\sum_{t=1}^{T}\beta_{jt}X_{ijt} + \sum_{t=1}^{T}\lambda_t Z_{it} + \delta AD_i + \phi ADS_i + \sum_{d=1995}^{2003}\psi_t YRD_{id} + \varepsilon_i,$$

where W is end-of-life wealth, X contains the t years of the j income components, Z is real estate taxes paid during life, AD is age at death, ADS is age at death squared, and YRD are the d dummy variables for year of death. The coefficients estimated are β, λ, δ, ϕ, and, ψ. The regressions disaggregate noncorporate business income into four components: estate and trust, rent and royalty, business, and farm income.[17] The amount of real estate taxes paid (for itemizers) as a proxy for housing wealth is included. The regressions are weighted and estimated separately for each filing status/wealth group combination previously examined.

Table 4 presents an overview of the results from the regressions. The shaded cells with an asterisk are variables where at least one of the seven coefficients is significant at the 5-percent level. A common theme across all groups is the significance of taxable interest and dividends, tax-exempt interest, capital gains, and rent and royalty income. The proxy for housing wealth,

[16] The U.S. Estate Tax is often called a back-stop to the income tax, especially in its treatment of unrealized capital gains on investment assets. The estate tax is levied on the full value of assets on the date of a decedent's death, including all gains. In return, however, beneficiaries inherit these assets with a cost basis equal to the date of death value. Thus, taxable accumulated capital gains on assets owned by a decedent are effectively eliminated at death. Estate planners are able to significantly reduce overall tax liability through strategic management of a decedent's portfolio in the years prior to death.

[17] This is done to capture the variability in the components of business income. For example, a filer may have positive trust income which is partially offset by negative rental income. Using only the sum of these two components would mask the variability in the underlying components.

Table 4. Wealth Regressions, by Filing Status and Wealth Category

Variable	Single Filers			Joint Filers		
	Less than $10M	$10M to less than $20M	$20M or more	Less than $10M	$10M to less than $20M	$20M or more
Wages	*			*		*
Taxable interest/ dividends	*	*	*	*		*
Tax-exempt interest	*	*	*	*		*
Capital gains/losses	*	*	*	*		*
Taxable SS/ pension/annuity	*			*		
Estate/trust						
Real estate taxes	*	*		*		*
Rent/royaties	*	*		*	*	*
Business	*			*	*	
Farm	*			*		*
Other	*					*
R squared	0.75	0.86	0.80	0.37	0.29	0.66

NOTES: Shaded cells with an asterisk indicate at least one of the seven coefficients for each variable is significant at the 5-percent level. Regressions also contain age, age squared, and dummies for year of death.

real estate taxes paid, is also significant for most groups. Business and farm income is more likely to be significant for the lowest wealth groups. As one might expect, taxable Social Security, pension, and annuity income is only significant for the lowest wealth groups. These results reinforce the linkages observed between income and wealth in the univariate analyses.

To further test the relationship between end-of-life wealth and income near death, the regressions are used to predict wealth for filers in each of the filing status/wealth groups. To gauge the accuracy of the predictions, Table 5 compares a filer's actual wealth category to the wealth category implied using predicted wealth. The table is a transition matrix showing the fraction of filers in each actual wealth category who remained in the same wealth category, or moved up or down categories when

Table 5. Actual versus Predicted Wealth Categories, by Filing Status and Wealth Category

Single Filers

Percentage of Filers		Predicted			
		Less than $1M	$1M to $10M	$10M to less than $20M	$20M or more
Actual	Less than $10M	6.1	93.7	0.2	0.0
	$10M to less than $20M	0.0	0.5	99.2	0.3
	$20M or more	11.4	9.6	14.1	64.9

Joint Filers

Percentage of Filers		Predicted			
		Less than $1M	$1M to $10M	$10M to less than $20M	$20M or more
Actual	Less than $10M	0.1	99.9	0.1	0.0
	$10M to less than $20M	0.0	0.4	99.4	0.3
	$20M or more	10.4	7.6	7.0	75.0

classified by predicted wealth. Note that there is an extra predicted wealth category of less than $1 million. For actual wealth, the minimum gross wealth for inclusion in the sample is $1 million.

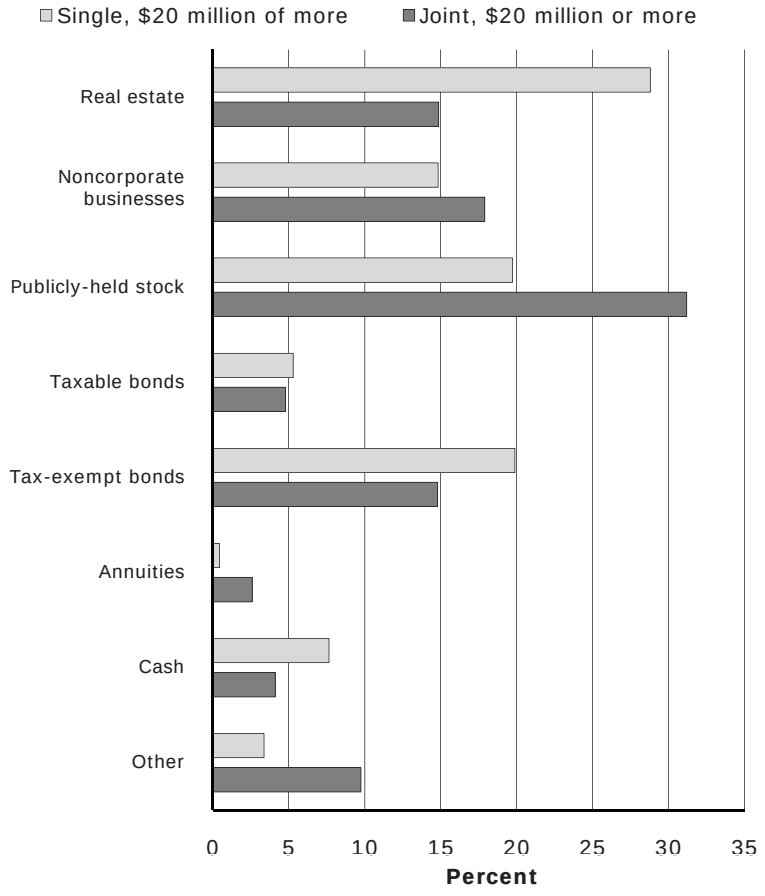
Focusing first on the grey shaded cells for single filers, over 90 percent of filers in the less than $10 million and the $10 to $20 million actual wealth groups remained in the same group when classified by predicted wealth. For the $20 million or more actual wealth group, almost two-thirds of filers remained in that group based on their predicted wealth. However, slightly more than 11 percent of filers in this group had predicted wealth of less than $1 million.

The results for joint filers show a similar pattern, although the fraction of filers in the two lowest actual wealth groups that remained in the same predicted wealth group is over 99 percent. For the $20 million or more actual wealth group, about three-fourths of filers remained in the same predicted wealth category. As with single filers in the top actual wealth group,

about 10 percent of the wealthiest joint filers had predicted wealth of less than $1 million.[18]

The regressions have a fair amount of predictive power for the bottom two wealth groups, partly due to the bounded range of wealth for filers in each of those groups. For the top wealth group, the lack of an upper bound on wealth makes predicting wealth more difficult. The fact that some filers

Figure 6. Wealth Allocation at End of Life, Filers with More than $20 Million in Actual Wealth and Less than $1 Million in Predicted Wealth



[18] The regressions were estimated using average income and real estate taxes calculated for just two periods (the 7 years to 4 years prior to death and 3 years to 1 year prior to death), and separately using income and real estate taxes averaged over all 7 years. Both models yielded results similar to the original models. However, when models were estimated using the income and real estate tax variables for just 2 selected years (4 years and 2 years prior to death), the percentage of misclassified filers in the highest wealth group increased by about 20 percent.

in the top wealth groups have predicted wealth of less than $1 million deserves some further investigation.[19] Figure 6 shows the portfolio allocation of actual wealth for these misclassified filers. For the single misclassified filers, real estate accounted for almost 30 percent of wealth. This is a much larger share than for all single filers in the top wealth group.

Tax-exempt bonds also accounted for a much larger percentage of total wealth for these misclassified single filers. For joint filers with actual wealth of $20 million or more but predicted wealth of less than $1 million, the share of wealth allocated to tax-exempt bonds and other assets is much larger than for all joint filers in the top wealth group. Real estate and other assets are each less likely to generate consistent yearly income flows and more likely to have accrued unrealized capital gains, which may explain the difficulty of predicting wealth from the income flows reported by these filers. It also appears that the model may significantly underestimate the value of tax-exempt bond holdings. Further analysis is planned to determine why the models underpredict wealth for some high wealth filers.

Conclusion

This analysis of the FPDD has shown that mean income for the wealthiest U.S. decedents in the years prior to death places them above the 95th percentile in the overall U.S. distribution of income. However, the data also show that the incomes reported for these individuals can be quite volatile in the years leading up to death. This volatility seems to increase for joint filers and is likely due to market fluctuations, as well as the tax-planning and spending needs of these decedents. For these individuals, income is composed primarily of taxable and nontaxable investment income and capital gains income, with wage income, noncorporate business income, and taxable Social Security, pension, and annuity income having a smaller share in the total.

However, contrary to the predictions of life cycle models of savings, these individuals do not appear to be consuming out of savings, as evidenced by the relatively low share capital gains contribute to total income. There is some evidence of income shifting, moving investments from taxable income-producing assets to those that generate nontaxable interest, which typically means moving from investments with high rates of return to those with lower rates of return. Not surprisingly, data reported on U.S.

[19] One measure of the accuracy of predicted wealth is the ratio of the mean absolute difference between actual and predicted wealth to mean actual wealth. For single filers, the ratios for the three wealth groups are .23, .04, and .47. For joint filers, the ratios for the three wealth groups are .35, .12, and .69.

estate tax returns for these wealthy individuals show portfolios heavily weighted toward financial assets, especially for those in the highest wealth category. For these individuals, investments in stocks make up one-third to one-half of total wealth.

Based on the regression results, longitudinal income data that are readily available from administrative records show some promise for predicting end of life wealth. The predictive capacity of the model presented suggests that it is possible to sort decedents into broad wealth categories with a fair degree of accuracy, using a relatively small number of income variables observed over a few years immediately preceding death. With refinement, this approach may provide a useful tool for measuring and addressing the potential estate tax filing gap.

It is especially encouraging that this approach seems to work well for single individuals in the lower wealth groups. Since estate tax law allows for an unlimited deduction for bequests to a surviving spouse, estates of married decedents generally elect to use this deduction to defer estate taxes until the death of the surviving spouse. Therefore, estates of widowed and single filers are most likely to incur an estate tax liability. In addition, decedents with wealth near the margins of the estate tax filing threshold are of particular interest when trying to identify potential nonfilers. Further research is needed to understand why the model performed less well for decedents in the highest wealth category and to better understand the interaction of income and wealth for joint filers.

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